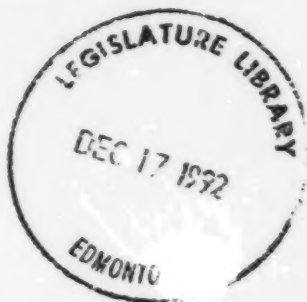


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ANNUAL REPORT



1991-92

OCCUPATIONAL
HEALTH
AND
SAFETY
HERITAGE
GRANT
PROGRAM



Heritage Fund

PROGRAM DESCRIPTION 1

The Occupational Health and Safety Heritage Grant Program is one of Alberta Occupational Health and Safety's major prevention programs and is a key element in meeting the department's strategic goals. It complements AOHS's mission — to enhance the health and safety of Alberta's workers — by supporting educational programs and projects, research and conferences.

Working in partnership with industry, labour, post-secondary institutions and other agencies, the Grant Program encourages Albertans to become involved in finding effective solutions to health and safety problems in the workplace. Its objectives are the prevention of injuries and ill health resulting from employment, and the promotion of the health and well-being of Alberta workers.

The Grant Program began in 1981 and is funded by the Alberta Heritage Savings Trust Fund. This report covers the 1991/92 fiscal year, the Grant Program's eleventh year of operation.

A solid track record

Alberta Occupational Health and Safety estimates that poor health and safety practices cost Alberta between \$1- and \$2-billion annually, not only in Workers' Compensation and insurance costs but in equipment damage, production losses and the loss of trained workers. The Grant Program spends 50 cents annually for each Albertan.

Other agencies have co-sponsored projects and donated supplies and services. In the last three years, for every grant dollar awarded, industry, the federal government and other Alberta government departments contributed 56 cents towards grant projects. In addition, for every dollar

the Grant Program has spent on research since 1986, another 32 cents has been spent by the federal government to continue the research.

Through the Grant Program, dynamic educational and research programs and organizations concerned with workplace health and safety now operate in Alberta universities and colleges. The numbers of Albertans trained in safety and loss control, occupational medicine, occupational health nursing and occupational hygiene technology have increased significantly.

Alberta apprentices and workers in a variety of hazardous occupations and industries receive up-to-date training in safe work procedures through materials developed with Grant Program funds. These include forestry, oil and gas, utilities, construction, manufacturing and transportation.

With assistance from the Grant Program, researchers have investigated important occupational health and safety problems. The Grant Program has also supported many occupational health and safety conferences held in Alberta.

During the 1991/92 fiscal year, 15 applications were approved. The results of some recent projects are featured in this report.

Because implementation of project results in Alberta workplaces is key to the success of the Grant Program, the emphasis is on finding solutions to known, high priority occupational health and safety problems. The Grant Program has focused on the following funding priorities:

- fatal and serious injury incidents;
- hazards in the forestry industry;

- hazards in the oil and gas industry;
- chemical and biological hazards;
- occupational health and safety problems of small businesses;
- initiatives for new/young workers;
- initiatives related to literacy/English as a second language.

The Grant Program is administered by a manager, research officer and secretary. Staff monitor the progress of funded projects by telephone calls, correspondence and site visits. As well, AOHS staff provide guidance to grant recipients on the design and development of their projects, and the promotion of the results of completed projects.

Completed grant projects are promoted throughout the year. For example, the Substance Use and the Alberta Workplace report, an outcome of a study funded by the Grant Program, was distributed to a wide audience in government, addiction research agencies, labour and industry. The results were also presented at a news conference. Other projects are promoted through articles in journals, magazines and newspapers, radio interviews and presentations to employers, workers and educators.

When investigators examine the circumstances of a serious incident, blame is often put on a failure to see occupational health and safety as a regular part of doing business and a core management activity. Studies have shown that the meaningful factor in reducing losses is the commitment of management.

"Of course we can teach workers to work safely," says Laird Wilson, a professional engineer with over 30 years of industrial experience in safety and loss management. "But the greatest strides in this area will be made by getting management to create a climate that considers safety as an integral part of business operations."

While today's managers wrestle with learning a new way of thinking about safety and loss management, Wilson is busy giving tomorrow's managers — university students — a head start. He has designed a unique program in safety and loss management at the University of Alberta. Engineering and business students can take two courses, Safety and Loss Management and Risk and Loss Management, which train them in industrial safety and loss management before they begin their careers.

Start-up and operational funding for the Safety and Loss Management Program — the only one of its kind in Canada — comes from the Alberta Occupational Health and Safety Heritage Grant Program. In 1988, Wilson was asked by the U of A's Faculty of Engineering to redesign its industrial safety course into the broader area of safety and loss management. An initial Heritage grant of \$60,000 covered the course redesign.

Wilson, who also teaches the two courses, points out that the engineering and business students enrolled in the program will form a significant portion of the future management of Canada. "What we're doing is preparing future managers, developing their attitudes and understanding of safety and loss management," he says. "We want them to become crusaders, to grow up with safety and loss management as a passion. And as they move up in the companies they work for, they will embody these concepts into the corporate systems."

Teaching safety in a new way

A key aspect of the courses is their approach to safety and loss. Rather than teaching the subject as a one-time activity isolated from other business operations, safety and loss management

"We want them to become crusaders, to grow up with safety and loss management as a passion. And as they move up in the companies they work for, they will embody these concepts into the corporate systems," Laird Wilson explained.

is presented as a continuous and consistent process.

"Safety and loss management isn't something you only do every Friday afternoon," explains Wilson. "It must be built into every job you do and think about. It is a continuous, well-balanced, long-term approach."

"This approach will result in the elimination of major disasters, and reduce the risk to people, the environment, assets and production."

Wilson developed the courses after a series of detailed consultations with senior executives, government departments, industry associations and academic colleagues. He received widespread support for his initiative due, in part, to the growing awareness of the high cost of industrial losses.

The courses attract between 60 and 80 students per term and are open to third and fourth year engineering and business students. The safety and loss program is one of the few opportunities that engineering and business students have to work together.

"The programs these students take are packed and as a result there are not many chances to talk across 'party lines'," Wilson says. "But in industry you had better be a team player, especially in safety and loss management. Major disasters are multifaceted but they stem from a lack of team work. We're attempting to develop this team attitude before our students begin their careers."

In addition to lectures from Wilson, guest lecturers visit the classes on a regular basis. Field trips to industrial sites are another important component of the program. Students visit companies such as Dow, Esso, Nova, Petro-Canada, Syncrude and Ellis-Don; the trips give them an insight into the application of safety and loss management in the field.

The student perspective

The students who take the safety and loss management courses become strong advocates of the program. They are the first group of Wilson's "crusaders" who will enter industry with new ideas about safety and loss management.



Crystal Oliver works as a teaching assistant for the safety and loss management program. She has a Bachelor of Commerce degree and will be entering her second year of engineering. Her long-term career goal is an executive position in safety and loss management.

"There are more and more opportunities in this area in industry," Oliver says. "Companies are heavy on safety and environmental issues."

"We teach the courses using a holistic approach. People, the environment, production are all related. As a manager you have to keep a good watch on all. I believe this broad-based approach gives students the background they need and is a big asset when they're hired on."

Ian Enright shares Oliver's enthusiasm for the safety and loss management program. He is studying mechanical engineering at the U of A, and is also a teaching assistant for the program. Enright credits Wilson for developing a keen interest in safety issues in his students. "I think the program is an eye-opener for many students," he says.

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"When they first come into the course they tend to think of safety as a reactive type thing. During the course, they learn a proactive management style."

Another aspect of the program that Enright values is the exposure engineering students get to the business side of an operation.

"Engineers get so involved in design issues, they sometime lose sight of the overall picture," Enright explains.

"They don't talk to business people. I see this program as a bridge between the two disciplines."

"It's important to note that I'm not calling it a trade-off. We are training engineers who are technically very competent — we're not lowering our standards — but these engineers also have an understanding of the safety and loss side of business."

Keeping up the momentum

The work done by Laird Wilson at the U of A has made Alberta a leader in safety education. There is now a nationwide initiative to integrate occupational health and safety principles into key college and university courses. Called Project Minerva Canada, the initiative is based on a U.S. program and sponsored by the Canadian Society of Safety Engineering.

Alberta continues to push ahead with this initiative. The U of A's Faculty of Engineering plans to establish a Chair in Safety and Loss Management. A \$231,200 Occupational Health and Safety Heritage Grant, awarded in 1992, is being used to expand the program and provide funds to cover the period while funding (\$2-million) is sought for the Chair.

About \$1-million has already been raised from industry. The funds include a leadership gift from Imperial Oil and capital gifts from DuPont Canada, Union Carbide, Shell Canada, NOVA, Syncrude, Weldwood, Dow Chemical, Celanese Canada and PanCanadian Petroleum.

In the meantime, there is more work to be done updating and improving the safety and loss management courses.

"We have to crawl before we walk and walk before we run," Wilson says.

"Right now we're at the walking stage. We have high credibility and we must maintain that reputation. Consequently we have to be careful not to spread ourselves too thin."

"Most people don't realize the effort that has gone into this. We've worked very hard and the effort will most certainly pay off when our students reach management positions. We're investing in the future."

SUBSTANCE USE AND THE ALBERTA WORKPLACE

Substance use in the workplace — it's an issue we've all heard about but until recently little was known about the prevalence of substance use in Alberta workplaces. "The perception in business was that substance use was a serious problem," says Doug Wright, President of the Canadian Federation of Independent Business. "However no one knew its nature or extent. It was necessary to find this out before we could determine how best to deal with substance use."

This information became available in 1992 with the publication of a comprehensive study of the prevalence and impact of alcohol and other drug use on the Alberta workplace. The Alberta Alcohol and Drug Abuse Commission (AADAC) carried out the study with funding from the Alberta Occupational Health and Safety Heritage Grant Program. The \$165,000 study surveyed over 2000 workers, 325 employers and 43 union representatives.

Results of the nine-month study show that the more dramatic effects of workplace substance use, such as work-related injuries or property damage, are in fact quite rare. Less than 1 per cent of respondents reported that a worker had been injured because they were impaired on the job.

"This is a foundation laying piece of research, one on which we can build," Sawka says. "We now have a good data base that fills a huge gap in our knowledge."

The most common effects of workplace substance use are more subtle and include absenteeism and reduced productivity. Although they seem minor,

they result in significant costs to the Alberta economy — perhaps as much as \$400 million per year.

Drinking patterns

Eighty per cent of Alberta workers surveyed consumed an alcoholic beverage in the past 12 months (roughly the same proportion of drinkers found in the total Alberta population).

Consumption patterns vary with the type of industry in which workers are employed. The highest weekly alcohol consumption is by workers in utilities and construction.

At work, 5.2 per cent of Albertans reported having used alcohol (including lunch and other breaks) in the last month. The least likely to report drinking at work are those in the health care and forestry/mining industries. Those most likely to report drinking at work are in oil and gas extraction, construction, telecommunications and manufacturing.

Illicit drug use

Relatively low levels of illicit drug use were reported by Alberta workers. Over the past year, 6.5 per cent of workers have used one or more illicit drugs. The drug of choice is marijuana.

Almost two thirds of these current drug users use drugs less than once a month. Again, consumption patterns vary with the type of industry. Oil and gas extraction, transportation, construction and forestry/mining reported more current users.

At work, very few workers (0.5 per cent) use illicit drugs. Reported use of drugs on the job was highest among construction workers, although differences among industries were not pronounced.

What's next?

"The results show that substance use in the Alberta workplace is not a huge problem," says AADAC's Sawka. "However it can have a serious impact and therefore we can't afford to be complacent. At the same time there's no reason to overreact."

"The perception in business was that substance use was a serious problem," says Doug Wright, President of the Canadian Federation of Independent Business. "However no one knew its nature or extent. It was necessary to find this out before we could determine how best to deal with substance use."

Sawka notes the study showed that both employers and unions recognize that substance use can affect workers' health and safety. About one third of Alberta workers have access to assistance programs run by their employer or union.

The study has already become a widely referenced source. Over 1300 copies have been distributed to workers, employers and addiction research agencies. AADAC and Alberta Occupational Health and Safety are working together to ensure a high level of awareness of the study's results. Their goal is to help employers and workers develop appropriate policies and programs that will have a positive effect on workplaces in Alberta.

"This is a foundation-laying piece of research, one on which we can build," Sawka says. "We now have a good data base that fills a huge gap in our knowledge."

HEROES: A PROGRAM FOR TEENAGERS

5



Buckle up. Drive sober.
Look first. Wear the
gear. Get trained.

If you've heard this message before, chances are you're an Alberta teenager or a friend or parent of one. These five maxims form the basis of HEROES, a unique injury prevention program developed by the University of Alberta Hospitals' Injury Awareness and Prevention Centre (IAPC). As of the end of January 1992, 185,000 students had viewed HEROES and heard its message.

The program was created to combat teenage injuries, a serious fact of teenage life that does not receive a great deal of public attention. About 70 per cent of teenage deaths are caused by injury.

"There's no doubt injury is very much a part of teenage life," says IAPC director Lorna Stewart. "HEROES is a very positive step towards doing something about teenage injuries."

Getting the show on the road

The development of HEROES was a complex task that brought together the talents of many people. For production, the program received \$50,000 from the Grant Program as well as funding from agencies such as the Alberta Solicitor General, Health and Welfare Canada, the

Alberta Motor Association and the Alberta Medical Association.

"Total production costs were in the neighbourhood of \$200,000," says Stewart. "The Heritage Grant was pivotal to getting HEROES going."

Thinking about injuries

HEROES represents a new way of thinking about injury. It takes the point of view that an injury is not an accident, but must be viewed like a disease that is

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preventable and predictable.

"The important thing about HEROES is that it not only speaks to teens, it speaks to them in their own language," Stewart explains. "It does not have an adult perspective."

Shown to high school audiences, HEROES is part multi-image show and part live presentation. The first part of the program is akin to a rock video, presented on a giant screen with

quadraphonic sound and sophisticated lighting. In the second part, injury survivors tell the audience how their injuries changed their lives.

Marlin Styner is one of the injury survivors who participates in HEROES. At 18, he was involved in a car crash that left him a quadriplegic confined to a wheelchair. Styner's presentation is graphic and often shocking.

It drives home the reality of life in a wheelchair and leaves a lasting impression on the audience.

Making a difference

Eager to determine the effectiveness of HEROES, the Injury Awareness and Prevention Centre recently undertook an evaluation of the program.

Results of the surveys are just now being analyzed although there are some impressive preliminary findings. For example, in the 1990-91 calendar year, St. John Ambulance dramatically increased enrollment in first aid training for teachers and students across the province. St. John believes this is due in part to the HEROES presentation and the exposure the "Get trained" message gets.

Going national

HEROES is now on the verge of a new era. In the fall the program will "go national" thanks to the efforts of the Canadian Injury Prevention Foundation. The Foundation will take over delivery of HEROES and it will be shown at high schools nation-wide. (Bookings in Alberta extend well into the next two years.)

"With the Foundation behind it, HEROES will have a national impact," says IAPC's Stewart. "This is a positive growth direction for the program. It will now reach many, many teenagers."

6 LAUNDERING PROTECTIVE GARMENTS



The phrase "doing the laundry" takes on a new meaning when you talk to University of Alberta researchers Drs. Margaret Ann Armour, Betty Crown and Kathy Rigakis. Funded by two grants totalling \$190,550 from the Grant Program, they are studying ways to clean clothing contaminated with pesticides.

The work has particular application to commercial pesticide applicators and greenhouse workers. Both groups risk considerable exposure to chemicals.

The work has particular application to commercial pesticide applicators and greenhouse workers. Both groups risk considerable exposure to chemicals. While protective clothing is very effective at minimizing exposure, the clothes must be decontaminated to prevent the build-up of pesticide residues. Although some water-soluble pesticides are easily removed by common laundry procedures, others leave considerable residues even after repeated washings.

Previous studies investigating decontamination methods that would apply to all pesticides have met with mixed success. Based on her wide

experience in clothing research, Dr. Crown felt that a new approach was necessary. "I felt that our work on decontamination would never catch up to the new pesticides that are continually being brought out on the market," she explains. "It seemed appropriate to look at the problem from a chemical theory perspective."

Research collaboration

This new research approach has fostered interdisciplinary collaboration among Drs. Crown and Rigakis, from the U of A's Department of Clothing and Textiles, and Dr. Armour from the Department of Chemistry. Dr. Armour's research on the conversion of toxic chemicals to inactive products fits perfectly with the pesticide study.

The research project started in May 1991. After surveying associations representing commercial pesticide applicators and greenhouse workers, the researchers selected 13 of the most commonly used pesticides for the study. Besides the laundry procedures, other possible spin-offs of the research are techniques to decontaminate equipment, clean up work site spills, and detoxify waste and surplus pesticide.

The laboratory work is a complex task as each pesticide must be evaluated under a

Although some water-soluble pesticides are easily removed by common laundry procedures, others leave considerable residues even after repeated washings.

variety of conditions.

Once the researchers find reactions that work in the lab, there is still much more to be done.

"Some of the more drastic decontamination methods may not translate well to laundering because they damage the clothes or even the washing machine itself," says Dr. Rigakis. "Consequently we have to measure the effect of cleaning on fabric strength and colour. The procedures we develop must also be within the realm of what a normal person will do. Above all, they must be practical."

Publicizing the results

Once procedures are developed, the researchers are committed to getting the word out to the workers. All the associations of commercial and greenhouse applicators have volunteered to publish the results of the study in their newsletters. Because the results will also be applicable to farmers, Dr. Crown will be using her contacts at Alberta Agriculture to get the word out to home economists.

Once the research is completed, there are plans to produce a booklet with clear suggestions on how to clean up spills and clean clothing effectively. "We are definitely going to get our results out to users," says Dr. Rigakis. "I can't guarantee that we will be able to get 100 per cent removal in all cases, but our procedures will be the best ones available."

Two university-based occupational health and safety programs are serving Alberta workers and employers with a unique blend of research and service work. The Southern Occupational Health Resource Service, at the University of Calgary, and the Northern Alberta Occupational Health and Safety Resource Centre, at the University of Alberta, are funded by \$500,000 grants from the Grant Program. The grants were awarded in 1990 and run for five years.

While the programs are both based within their respective university's Faculty of Medicine, each program takes a different approach.

Focus on newcomers

"Canada is a nation built on immigration," says Dr. Doug Hamm, Director of the Southern Occupational Health Resource Service (SOHRS). "And yet in many cases there isn't the infrastructure support that's needed to help immigrants cope with the demands of their new society."

"We hope to act as a bridge for people who are acquiring the language," explains Dr. Hamm. "It's untouched territory. There's strong interest across Canada in what we're doing."

One of those challenges is health and safety at work. Because immigrants have a strong desire to succeed, they will often accept more hazardous work or take risks in order to keep their job. They may not be aware of recommended work practices, safety regulations, personal protection, or their rights and responsibilities as workers.



"We must get the message out better," says Dr. Hamm.

Brochures on various health and safety topics are being translated into Spanish, Chinese, Persian and Vietnamese; they will be distributed through English as a Second Language programs and by immigrant aid societies. This summer, SOHRS is running a special workplace health promotion program in Calgary's Chinatown.

"We hope to act as a bridge for people who are acquiring the language," explains Dr. Hamm. "It's untouched territory. There's strong interest across Canada in what we're doing."

Research, teaching, service

It's been a busy year at the Northern Alberta Occupational Health and Safety Resource Centre.

On the research side, one of the major studies completed by the Centre concerns firefighters' mortality. The study covers all firefighters employed between 1927 and 1987 in Calgary and Edmonton — over 3300 individuals.

"With the advent of the use of plastics in the 1950s, an increased incidence of lung cancer among firefighters has been expected," says Dr. Tee Guidotti, Director of the Centre. "Our study was

the first to detect an elevation in lung cancer rates, albeit a modest one. We did not find any cardiovascular or emphysema effects."

In occupational health teaching, the University of Alberta offers the only residency in occupational medicine in Canada. Four residents are currently in the program.

"If we are to have individuals trained in occupational medicine, they must have opportunities like this residency," explains Dr. Guidotti. "The physicians who complete this program will teach the next generation of medical students."

One of the Centre's most ambitious

One of the Centre's most ambitious service projects is a social marketing demonstration project in Fort McMurray. It combines both community health promotion and workplace health promotion, activities that are usually considered separately.

service projects is a social marketing demonstration project in Fort McMurray. It combines both community health promotion and workplace health promotion, activities that are usually considered separately. At the same time, the project team is developing parallel safety messages to be pilot-tested in training programs with local employers.

"The message is: safety is not something you train for that is only used for a particular purpose, it is a way of life," Dr. Guidotti says. "It's about the choices you make and the way in which the world around you is engineered."

8 EVALUATION OF THE GRANT PROGRAM

A comprehensive, independent evaluation of the Grant Program emphasized the need for a strong and sustained commitment to the program. The evaluation found broad-based support from employers, workers and occupational health and safety professionals. It gives clear evidence of the significant impacts and results generated by grant projects. The evaluation's first recommendation is to continue the program.

Ernst and Young Management Consultants undertook the evaluation to determine the impact and results of the program and, if the program was to be continued, what future direction it should take. The Grant Program is operating on an extension of its original mandate.

As well as highlighting the importance of grant projects, evaluation results also show the government is widely regarded as a key partner in developing injury and ill-health prevention strategies and solving occupational health and safety problems.

The approach

Extensive interviews with a wide range of people formed the basis of the Ernst and Young evaluation. The evaluation team canvassed the opinions of external and internal stakeholders, Grant Program recipients, companies and organizations that had used a funded project, and workers in industries related to the projects.

The 17 external stakeholders came from employer, labour or academic backgrounds and were generally in executive positions. They were interviewed on issues and trends in occupational health and safety as well

as the impact and role of the Grant Program.

Twenty-two randomly chosen grant recipients were asked to assess the impacts and results of funded projects and give their own views on the future role of the program. Interviews with project users — 36 in all — were used to see whether their views on the impacts and results of a project were consistent with grant recipients' views. Comments from 46 workers from industries related to four Grant Program projects determined whether workers considered them to be beneficial.

The evaluation found that the Grant Program is having a positive impact in Alberta workplaces.

In addition to the interviews, Ernst and Young also reviewed similar programs in Quebec, Ontario, Manitoba and British Columbia. These jurisdictions consider grant programs an important component of their overall approach to occupational health and safety.

Results: Strengths and weaknesses

The evaluation found that the Grant Program is having a positive impact in Alberta workplaces. One key stakeholder's point of view summarizes the majority opinion about the significant support role played by the Grant Program. He said the Grant Program is a "wonderful program and is doing a lot to help groups achieve their goals."

Beyond the general comments, the interviews also brought forward specific opinions on the Grant Program. The program's major strengths were identified as flexibility, leverage for

Alberta Occupational Health and Safety, and usable results. In order to make the Grant Program a more strategic element in the total approach to occupational health and safety, those interviewed recommended that three issues be addressed: the low profile of Grant Program results, lack of sustained commitment to the Grant Program, and industry (both employers and workers) involvement.

Flexibility: Participants identified the primary strength of the Grant Program as its ability to adapt to emerging needs in the field of occupational health and safety. The Grant Program's funding for pilot projects or feasibility studies was seen as a major strategic advantage. A grant was provided to the Alberta Logging Association to develop a health and safety manual, when its members recognized the need for woodlands companies with 10 or fewer workers to reduce their unacceptably high injury rate.

AOHS Leverage: The Grant Program provides a vehicle for industry, researchers and Alberta Occupational Health and Safety (AOHS) to influence and coordinate efforts in solving occupational health and safety problems. As one key industry stakeholder said, "The Grant Program is an excellent mechanism for AOHS to achieve goals." A worker said: "(The government) is getting something for its money." Many awards are co-sponsored. In the last three years, for every dollar awarded, industry, the federal government and other Alberta government departments have contributed 56 cents towards grant projects.

Usable results: The Grant Program benefits workers. For example, a funded project developed procedures to

systematically evaluate flame resistant protective clothing. This included the development of the only independent thermal mannequin available in the world. It has been used by companies in Alberta and elsewhere in North America. In addition, the Canadian Petroleum Association has developed voluntary standards for flame resistant clothing for workers as a result of this Grant Program research.

Low profile: In the words of one key industry stakeholder, the Grant Program "appears to be one of the better kept secrets in town." Many external stakeholders attributed the low profile within industry to the apparent lack of a long-term funding commitment to the Grant Program.

Lack of commitment: Respondents felt that a clear statement of political support for the Grant Program was required to ensure the program assumes a long-term role in dealing with health and safety issues. Along with this statement of support was the need for long-term funding because, said one key industry stakeholder, "trying to plan under a short-term scenario doesn't work."

Not enough industry involvement: Respondents felt that a greater industry (both employers and workers) perspective was needed in the operation of the Grant Program. Many recognized the need for industry involvement in program decision-making, but were not aware of the role industry already plays.

Recommendations

The Ernst and Young team found strong support for the Grant Program from external stakeholders, grant recipients, project users and workers alike. Its first recommendation reflects that sentiment.

(1) Ernst & Young recommends continuation of the Heritage Grant Program.

Continuation of the program is consistent with what is happening in other jurisdictions that use grant programs to support research and/or education initiatives in occupational health and safety. These jurisdictions appear to be moving toward the unique problem-solving approach and broad mandate of the Grant Program.

The evaluation found broad-based support from employers, workers and occupational health and safety professionals.

During the evaluation, key external stakeholders stated that they want more involvement in the Grant Program. The second recommendation addresses this issue.

(2) Ernst & Young recommends increasing the participation of employers and labour in the Heritage Grant Program through reviewing the composition of the Steering Committee to allow for enhanced participation of industry in project funding decisions and the establishment of funding priorities and criteria.

The consultants point out that the essential element in encouraging increased industry participation is a demonstration of a long-term commitment for the Grant Program, in terms of funding and political support.

The evaluation also revealed that some stakeholders had little knowledge of the program. The third recommendation highlights the need for better awareness of the Grant Program.

(3) Ernst & Young recommends a concerted effort be undertaken to enhance the profile of the Heritage Grant Program particularly with

industry, potential grant applicants and other government departments.

Again, the consultants note that this recommendation is premised on a long-term commitment to the Grant Program. As well, awareness-raising is likely to incur added costs — costs that the consultants say should be seen as an investment with the pay-back in better projects and increased industry involvement.

Without industry (both employers and workers) support at the outset of projects, there is potential for projects to be completed but never used, or for projects to tackle problems that are not relevant to industry. The final recommendation focuses on the need for practical applications within industry.

(4) Ernst and Young recommends all project applicants demonstrate some form of industry support in their application proposal.

As the report acknowledges, currently many projects have industry support.

An ongoing need

The Ernst and Young evaluation found significant support for a continuing role for the Grant Program. While participants made suggestions for strengthening the Grant Program, none of those interviewed questioned its importance in helping to improve the occupational health and safety environment of Alberta. They stressed that there was much more to be done in areas such as education, safety training and the development of prevention strategies. As one key stakeholder from industry observed: "There is still a lot of work to be done in safety — we cannot stress the need enough."

Implementation of project results in Alberta workplaces is key to the success of the Heritage Grant Program. Grant recipients identify how their projects will benefit workers and employers, and how results will be promoted. Industry, labour and professional associations are in a position to directly apply new solutions to workplace problems. By funding these groups, the Grant Program aims to maximize benefits to Alberta workers.

From 1981 to 1992, the Heritage Grant Program received 599 applications and approved 216. In 1991/92, 15 applications were approved, the same number as the previous year (Appendix II).

At least 55 per cent of all projects have outcomes or results that can be applied in more than one industry. For example, educational materials on chain saw safety — funded by a Heritage grant — are now used in the forestry, oil and gas, and construction industries.

Grant recipients

Technical institutes, colleges, vocational centres and universities have received 56 percent of grant funds (Appendix I). This reflects the 1985 recommendation of the Standing Committee on the Alberta Heritage Savings Trust Fund Act which placed special emphasis on involving post-secondary institutions. The results of funding educational institutions are seen in new courses in areas such as safety and loss management (see pages 2 and 3); the benefits are long-lasting. Because of these educational initiatives, many Albertans are able to pursue occupational health and safety training not previously available in this province.

Employer and industry associations received 15 per cent of the grant funds. Other recipients are unions, professional associations, consultants and municipalities.

Information transfer

The range of outcomes produced with Grant Program sponsorship includes videos, safe procedures manuals, courses, research reports, computer software, and methods to evaluate protective garments. All materials are available for public circulation from the Alberta Occupational Health and Safety Library. Albertans can also order copies of project reports from Alberta Occupational Health and Safety's regional offices. In addition, materials are sent to the National Library of Canada and the Canadian Centre for

Occupational Health and Safety.

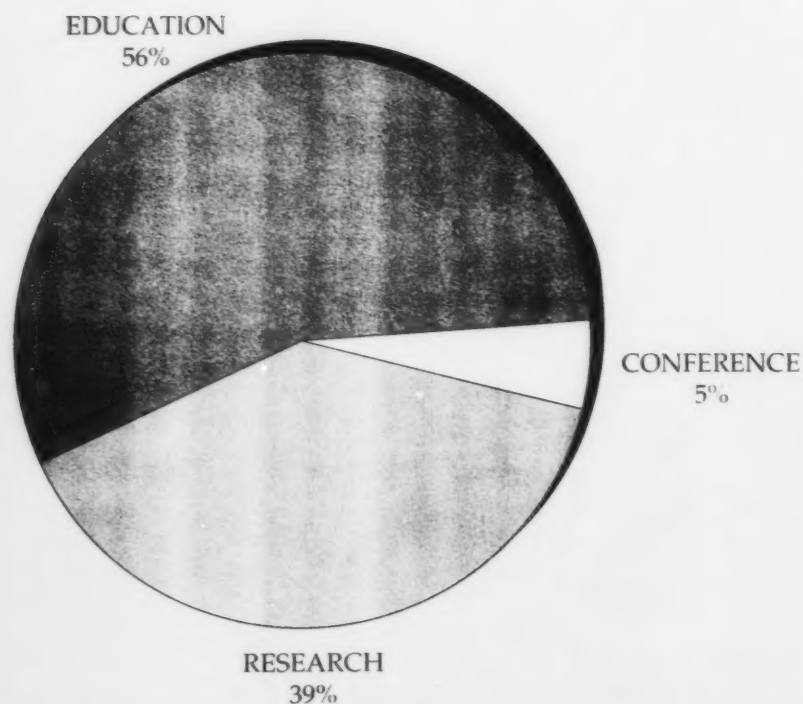
Promotion of project results is an ongoing function of the Grant Program (see accompanying table). The distribution of the Substance Use and the Alberta Workplace report, an outcome of a study funded by the Grant Program (see page 4), serves as a good example of how project results reach a wide audience. Over 1300 copies of the report have been distributed to federal and provincial government offices, international agencies, organizations interested in occupational health and safety, labour groups, businesses and survey participants. In addition, the results of the project were presented at a news conference, which received extensive coverage, and presented to industry (employers and workers).

Promotion of 144 Completed Projects

Copies of reports, booklets, videotapes in circulation	266,448
Courses available from education institutions and industry groups	41
Workers, employers, and health and safety professionals trained in these courses	261,307
Presentations of results at conferences, industry and professional association meetings	506
Research reports produced	74
Books and manuals published	66
Articles in journals	178
Papers in conference proceedings	84
Videotapes or films produced	26
Public use of videotapes from the Occupational Health and Safety Library	2272
Articles in <i>Occupational Health & Safety Magazine</i>	89

*Not all projects have records of the number of publications distributed, presentations made or workers trained. The results presented in this table understate the actual dissemination of results and the use of Grant-produced materials.

FUNDS AWARDED BY GRANT TYPE APRIL 1981 - MARCH 1992



Education Grants

Education grants are used to develop innovative educational programs which emphasize the recognition, avoidance and control of hazards related to work. Funds may also be provided to evaluate the effectiveness of new educational programs.

Research Grants

Research grants support scientific activities designed to increase the understanding of occupational health and safety and assess new strategies for dealing with problems. Research is conducted to fill gaps in knowledge or provide information required to solve problems. With new knowledge, it is often possible to develop both technical and procedural solutions to safety problems. Solutions may include the design of new equipment, and the development of safe operating guidelines and procedures.

Conference Grants

Conference awards provide partial support for conferences in Alberta which increase understanding and awareness of health and safety issues related to work. Grant funds are normally used to defray the costs of bringing experts to the province, and of planning activities. Albertans may also receive support to attend conferences which enhance the knowledge and expertise of occupational health and safety practitioners in the province.

Education Projects

Development of Safety Engineering and Loss Management Program Faculty of Engineering, University of Alberta (\$231,200)

Graduates from the faculties of engineering and business will someday become industry leaders in Alberta. The project recognizes the importance of instilling in senior undergraduate students an awareness of industry's responsibility towards workplace health and safety. The award is enabling the Faculty of Engineering to complete its plans to establish a Chair in Safety and Loss Management. The Faculty will: (a) establish a self-sufficient Chair in Safety and Loss Management; (b) further expand existing courses in safety and loss management, and safety and risk management; (c) expand guest lectures to other university faculties; and (d) develop an introductory course for all engineering students.

Preventing Back Injuries through Workplace Improvements Alberta Workers' Health Centre (\$55,000)

Back injuries comprise over 25% of occupational injuries and illnesses in Alberta. However, workers are rarely informed about ergonomic solutions to prevent back injuries. The project is developing a workshop and materials taking an ergonomic approach to back injury prevention. It is designed to reach workers and small businesses directly. Fourteen workshops will be offered in seven Alberta communities.

The effectiveness of reaching these workers and employers through this approach will be evaluated. Several community colleges across the province will be approached to offer the workshop on a continuing basis.

Safety of Man-made Vitreous Fibers Abraxas Communications (\$40,900)

The use of man-made vitreous fibers, such as fiberglass, has expanded considerably in recent years. The project is developing two videotapes. One video program will review the precautions and safe work procedures insulators should follow to prevent exposure to these fibers. The second program will be directed to building owners and other workers who may have the fibers in their workplace, but do not work directly with the materials.

Safety Training for Alberta Home Builders Alberta Construction Safety Association (\$50,000)

The residential construction industry has a high rate of occupational injury - higher than the rate for commercial construction and considerably higher than the rate for all Alberta industries. A substantial proportion of injuries in residential construction are the result of overexertion, being struck by an object, or are caused by falls. Almost 50% of lost-time injuries happen to workers who have been employed in the industry for less than six months. The project will develop an interactive videodisc for the safety training of Alberta home builders. A training certificate will be issued to workers

who complete the program, and Alberta home builders will require workers to take the safety training. The project is being funded in partnership with industry and other government sponsors.

Awareness of Chronic Painters Syndrome (Phase II) Alberta Painters and Decorators Association (\$27,500)

Painters and decorators work with numerous chemicals which, when handled improperly, can cause health problems. Some workers in the industry have received little or no health and safety training. However, it is important for workers to know the hazards and their controls. A seminar will be developed for painters and decorators and their spouses. It will be delivered a total of 10 times across the province. Topics will include: the benefits of working safely; the health hazards of painting; how chemicals are absorbed into the body; a painter's perspective on working safely; and health and safety legislation. Content will be maintained at an introductory level, focusing on basic information and awareness raising.

Research Projects

Evaluation of Garment Systems for Thermal Protection Canadian Petroleum Association (\$19,250)

Workers caught in flash fires generally suffer injuries resulting from their clothes catching fire, rather than from the brief fire itself. The protection from serious skin burns provided by various layers of clothing in flash fires is unknown. The project is examining several combinations of flame-resistant and non-flame-resistant shirts/pants,

underwear, coveralls and parkas. The researchers are using the thermal mannequin developed in an earlier project to estimate the extent of second- and third-degree burns for the various clothing systems being tested. The information gained from this project will assist with the development of a national standard for flame resistant workwear for the oil and gas industries.

Lung Health in Workers Producing Oriented Strand Board
Division of Pulmonary Medicine and Department of Health Services Administration & Community Medicine, University of Alberta
(\$54,350)

Two workers who were employed at an Alberta plant which manufactures wood products were examined by a physician specializing in pulmonary medicine. In both instances, it seemed that their respiratory problems were related to workplace exposures to chemicals and wood dust. Many workers face these same exposures daily. Few studies, however, have studied the respiratory effects of this combination of substances. The project is evaluating whether lung function and respiratory problems of workers in wood products manufacturing plants are related to exposure to isocyanates, phenol formaldehyde and wood dust from aspen trees. The project will identify the extent of the problem and also control measures to reduce any harmful exposures. The results may have wide application, since the chemicals and processes which are being studied are common in the forest products industry, as well as other industries.

Effective Pesticide Decontamination for Clothing, Equipment and Spills (Phase II)

Departments of Clothing & Textiles and Chemistry, University of Alberta
(\$95,700)

Pesticides are a potential health hazard when handled in an unsafe manner. A common means of pesticide exposure and absorption is through the skin. Using the family washing machine for clothes worn while applying pesticides may spread the pesticides to other clothing. In this second phase, the researchers are continuing to develop safe and practical procedures to remove pesticide residues from work clothes. The procedures will be used by green house workers, farmers, pesticide applicators and many others. The focus is on commonly used pesticides. Laboratory tests are being conducted to ensure that the pesticide is completely converted into harmless products, while preserving fabric strength.

Conference Projects

Injury Prevention in Health Care Facilities

Alberta Healthcare Association
(\$56,750)

Over 3000 lost-time injuries and illnesses occurred in health care facilities in 1990. Auxiliary hospitals, nursing homes and senior citizen homes have a particularly high rate of back injuries and other injuries. Workers and employers from hospitals, auxiliary hospitals, nursing homes and senior citizen homes will be invited to a series of four workshops and conferences. The *Forum for Action on Workplace Health and Safety*, a tripartite group of Alberta leaders which aims to raise awareness and encourage commitment to health and safety, will

serve as a resource to help those in health care facilities to work cooperatively to reduce injuries and illnesses. The success of the project will be assessed by whether worker and facility leaders respond to the initiative, implement changes, and bring about a reduction in illness and injury rates.

Regional Conference on Occupational Health and Safety for the Retail Trade and Related Industrial Sectors
Retail Council of Canada - Western Office (\$12,000)

The occupational injury and illness rate for food stores and some related industries is above the provincial average. Recognizing the need for improvement, employers and workers of retail and wholesale companies and from the accommodation and food service industries will meet for the first time to discuss occupational health and safety topics relevant to their industries. Topics will include ergonomics and health and safety programs. Participants will have the opportunity to share their success stories. The conference will raise the awareness and increase the knowledge of occupational health and safety among both employers and workers in these industries.

Commitment to Action: A Conference on Workplace Health and Safety
Alberta Chamber of Resources
(\$69,500)

At the Banff Roundtable on Occupational Health and Safety held in March 1989, a great deal of discussion focused on partnerships and collaboration as important elements to improve occupational health and safety. The Banff Roundtable identified general issues and presented broad solutions. Under the guidance of the

Forum for Action, the Commitment to Action conference held in Edmonton took the discussion to the level of the individual company and work site. It brought managers and workers into direct discussion about practical solutions to promote healthy and safe workplaces. The conference comprised several keynote speakers, panel discussions and workshops. Workshop topics included: community impact of illness and injury, back injury prevention programs, substance use and the Alberta workplace, WHMIS training programs, and farm safety programs.

EnviroAction 92: The Workplace and Beyond
Alberta Healthcare Association
(\$20,000)

In the last decade, awareness about world-wide environmental deterioration has increased throughout society. Many individuals and organizations recognize the threats, and the need for a common purpose in meeting them. A conference was organized to address environmental risks and their relationship to occupational health and safety (oh&s). It brought together health and safety professionals employed in health care facilities, community service agencies, industry and other areas. Held in Calgary, the three-day conference addressed changes in the workplace, including oh&s issues, which are the result of emerging environmental concerns. The meeting helped oh&s professionals recognize environmental circumstances, hazards and solutions which are related to oh&s concerns.

Back Injury Prevention Workshop
Injury Awareness and Prevention
Centre, University of Alberta
Hospitals (\$4500)

Back injuries comprise some 28% of all occupational injuries and illnesses in Alberta. A workshop on back injury prevention was held as part of the Third Annual Injury in Alberta Conference held in Edmonton. Attended by occupational health and safety professionals, worker representatives, employer representatives and others, the workshop's three sessions examined the following areas: what is known about this injury; an ideal prevention program; and how to get there from here. The workshop gave participants concrete suggestions which could be implemented at their work sites.

International Study on Cancer Risk
among Workers in the Pulp and Paper
Industry - Canadian Workshop
Department of Health Services
Administration and Community
Medicine, University of Alberta
(\$4000)

The International Agency for Research on Cancer (IARC), affiliated with the World Health Organization, is coordinating an international study of cancer risks among workers in the pulp and paper industry. Only a few studies have been conducted to date, and the results are inconclusive. The Canadian portion of the international effort is being coordinated by Dr. Colin Soskolne at the University of Alberta. Dr. Soskolne brought together scientists, and industry and government representatives from across Canada to discuss current knowledge and to plan the Canadian component of the international study. Held in

Edmonton, the meeting was funded in partnership with industry and other government sponsors.

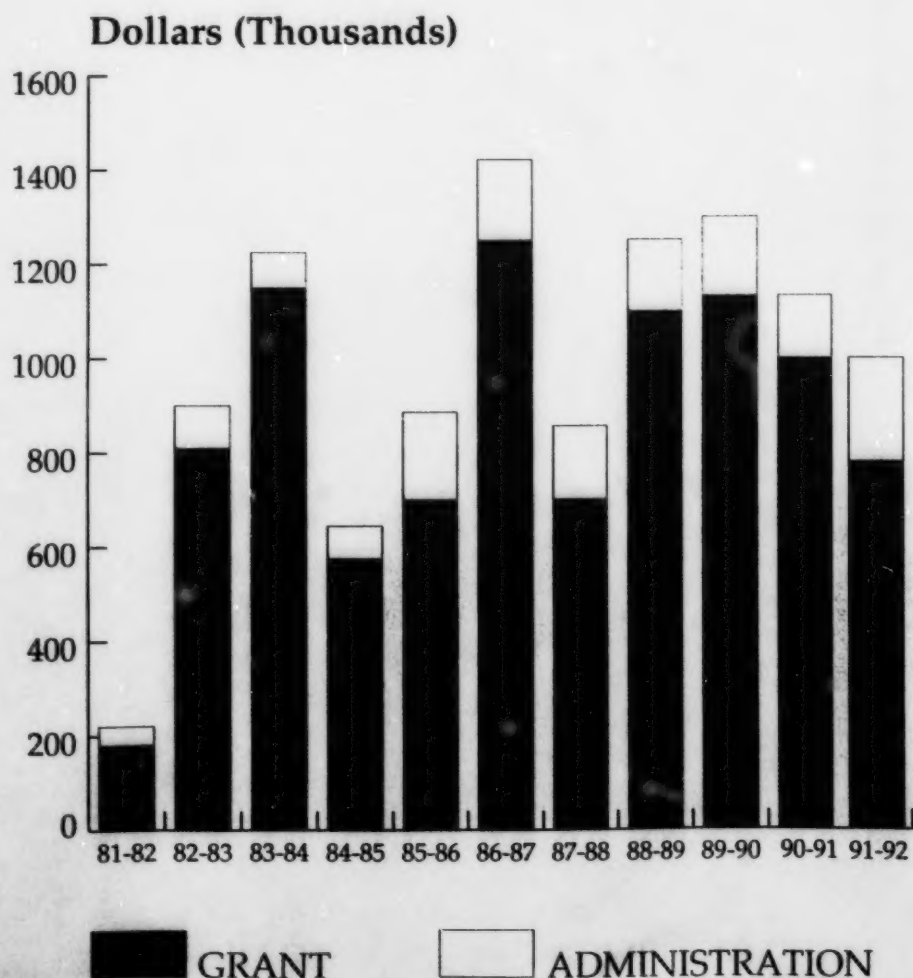
Ergonomics for the Meat and Poultry
Packing Industries
Alberta Workers' Health Centre (\$470)

Repetitive strain injuries and back injuries are common in meat and poultry packing industries. A unique seminar in Calgary discussed ergonomic methods to prevent these injuries. The grant allowed one representative from the Centre to attend the seminar. The information gained at the seminar was subsequently presented to Alberta workers in a series of seminars given by the Centre.

Grant Expenditures

The figure shows Grant Program expenditures since 1981. Annual budgets have ranged from 1-2 million dollars. Only high quality projects are approved for funding.

PROGRAM EXPENDITURES April 1981 - March 1992



Grant Steering Committee

The Grant Steering Committee was established in April 1981 by the Minister responsible for Workers' Health, Safety and Compensation, to ensure that a broad range of perspectives and expertise contributed to development of the Grant Program. Following a recommendation of the Standing Committee on the Alberta Heritage Savings Trust Fund Act, four public members were appointed to the Committee in January 1985.

The Committee reviews applications for grants and makes recommendations regarding funding. The Committee also advises the Minister responsible for Occupational Health and Safety generally on matters related to operation of the program administration, funding priorities and promotional activities.

Between April 1981 and March 1992 the Committee met 85 times to review and make recommendations on program guidelines, funding criteria and grant applications.

On March 31, 1992, committee membership included four public representatives from the Occupational Health and Safety Council and seven representatives from six provincial government departments and agencies.

PUBLIC MEMBERS

Labour Representative

Mr. S. Lee
Edmonton

Employer Representatives

Mr. Tom Whiting
Innisfail

Mr. C. Turner
Grande Prairie

Public Representative

Mr. K. McBeth
Edmonton

ADVANCED EDUCATION

Mr. W. Novasky, Director, Program
Coordination Branch

CAREER DEVELOPMENT AND EMPLOYMENT

Mr. J. Vellacott, Coordinator
Counselling Policy

LABOUR

Mr. K. Fenning,
Chief Plumbing and
Gas Inspector

OCCUPATIONAL HEALTH AND SAFETY

Mr. J. Ottery, Executive Director,
Policy and Professional Services

Mr. L. Sorochan, Manager,
Education Programs

PERSONNEL ADMINISTRATION

Mr. H. Gerling, Manager,
Occupational Health and Safety Branch

WORKERS' COMPENSATION BOARD

Ms. D. Manz,
Vice-President, Corporate Development